

Remarks/Arguments:

By this Amendment, Applicants have amended claims 1, 4, 7, 8, 9, 30, and 31. Applicants have also cancelled claim 32 and added new claims 35-38. Claims 1, 4, 6-10, 29-31, and 33-38 are pending.

Examiner Interview

Applicants acknowledge with appreciation the courtesies extended by Examiner Diaz to Applicants' counsel, Mr. Ashery, and Applicants' representatives, Mr. Kawakami and Ms. Kawasaki during the interview at the Patent Office on September 25, 2003.

Independent claims 1 and 32 were discussed at the interview along with the White Patent, Matsuki Patent, as well as Applicants' Specification relative to Figs. 10A-10E of the pending application.

One of the issues discussed at the interview concerns the Section 103(a) rejection of claims based on Applicants' Specification and the Matsuki Patent. As expressed to the Examiner, it is Applicants' contention that there is insufficient "motivation" to combine the Applicants' Specification with the Matsuki Patent, and that the Section 103(a) rejection is therefore flawed. The motivation which is set forth in the Office Action relative to combining Applicants' Specification and the Matsuki Patent is to prevent the substrate from warping. However, as Applicants explained to the Examiner, Applicants' substrate does not warp; only Matsuki's substrate is subject to warping. In fact, the entire motivation for Matsuki to apply his second interlayer is to mitigate warping. Thus, it was explained to the Examiner that the motivation set forth in the Office Action for combining Applicants' Specification with the Matsuki Patent was modifying the semiconductor device shown in Figs. 10A-10E to correct a problem which does not occur in Applicants' semiconductor device. In other words, the Examiner was modifying the semiconductor device of Applicants' Specification based on a problem which appears in the Matsuki Patent alone. Thus, there is simply no motivation to combine Applicants' Specification and the Matsuki Patent, and the Section 103(a) rejection based thereon is improper and should be withdrawn.

Claim Rejections Under Section 103

Claims 1, 6, 10, 29, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Specification in view of White. Based on this Amendment, Applicants' respectfully traverse the Section 103(a) rejection.

Claim 32 has been cancelled. Claim 1 is an independent claim to which claims 4, 6-10 and 29 depend.

Claim 1 is directed to a semiconductor device and includes the following elements:

- a capacitor provided on a supporting substrate and including a lower electrode, a dielectric layer, and an upper electrode, the dielectric layer being formed from a ferroelectric material,
- a first interlayer insulating layer provided so as to cover the capacitor,
- a first interconnect selectively provided on the first interlayer insulating layer and electrically connected to the capacitor through a first contact hole formed on the first interlayer insulating layer,
- **a second interlayer insulating layer consisting of an interlayer insulating film** having a tensile stress provided on the first interconnect, and
- a second interconnect selectively provided on the second interlayer insulating layer and electrically connected to the first interconnect through a second contact hole formed in the second insulating layer.

Applicants' respectfully submit that the semiconductor device of claim 11 is patentably distinguished from the Applicants' Specification and the White Patent at least based on the feature that the second interlayer insulating layer is "consisting of an interlayer insulating film" (emphasis added) having a tensile stress (hereinafter generally referred to as the "Second Interlayer Insulating Layer Feature" of applicants' claimed invention). Neither Applicants' Specification nor the White Patent teach or suggest the Second Interlayer Insulating Layer Feature. Because this feature is lacking in these references of record, they can neither anticipate nor render obvious the semiconductor device defined by Applicants' claim 1.

Applicants' Specification referred to in the Office Action focuses on Figs. 10A-10E. These Figures describe a method for fabricating a semiconductor device 500. But nowhere in Applicants' Specification relative to Figs. 10A-10E is there any teaching or suggestion of a

second interlayer insulating layer which consists of an interlayer insulating film. In other words, the second interlayer insulating layer defined by Applicants' claimed invention is of a singular layer, and such a structure is neither taught nor suggested in Applicants' Specification.

The White Patent in general concerns a method for forming an embedded DRAM structure that is formed on-chip with CMOS logic portions. More specifically, the White Patent has been cited with respect to a second dielectric layer 44 shown in Fig. 6 of the White Patent (see, col. 5, line 63 - col. 6, line 5). But nowhere in the White Patent is there any teaching or suggestion of a second interlayer insulating layer "consisting of an interlayer insulating film" having a tensile stress as defined in Applicants' claim 1. Thus the White Patent, like Applicants' Specification, lacks this feature of Applicants' claimed invention. Accordingly, Applicants' Specification and the White Patent, either separately or in combination, do not anticipate or render obvious Applicants' invention as set forth in claim 1 to which claims 4, 6-10 and 29 depend. Based on the foregoing remarks, Applicants request that the Section 103(a) rejection based on Applicants' Specification and the White Patent be withdrawn.

Claims 1, 7-9, and 29-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Specification in view of Matsuki. Based on this Amendment, Applicants respectfully traverse the Section 103(a) rejection.

As noted above, Applicants' Specification does not teach or suggest the Second Interlayer Insulating Layer Feature of Applicants' claimed invention. It is Applicants' contention that the Matsuki Patent also does not teach or suggest this feature.

The Matsuki Patent relates in general to a method for manufacturing a nonvolatile semiconductor memory device. More particularly, the Matsuki Patent has been cited with respect to the second dielectric film 21 shown in Fig. 4 (see, col. 6, lines 45-59 of the Matsuki Patent). But nowhere in the Matsuki Patent is there any teaching or suggestion of the Second Interlayer Insulating Layer Feature of Applicants' claimed invention. Thus, the Matsuki Patent, like Applicants' Specification, does not teach or suggest this feature of Applicants' claimed invention. Therefore, Applicants' Specification and the Matsuki Patent either individually or in combination do not teach or suggest the semiconductor device defined in independent claim 1, to which claims 4, 6-10, and 29 depend.

As noted above, Applicants also contend that there is no adequate "motivation" to combine the Applicants' Specification with the Matsuki Patent, which is further grounds for withdrawing the Section 103(a) rejection.

Independent claims 30 and 31 have been amended so that they too include the Second Interlayer Insulating Layer Feature of Applicants' claimed invention. Thus, for the same reasons as noted above, claims 30 and 31 are patentably distinguished from Applicants' Specification and the Matsuki Patent.

Based on the foregoing remarks, Applicants respectfully submit that the Section 103(a) rejection based on the Applicants' Specification and the Matsuki Patent should be withdrawn.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Specification in view of White and further in view of Matsuura. Based on this Amendment, Applicants' respectfully traverse this Section 103(a) rejection.

Claim 4 is directly dependent on claim 1 and therefore includes the Second Interlayer Insulating Layer Feature. Based on the above discussion, Applicants' submit that claim 4 is therefore not anticipated nor obvious in view of Applicants' Specification and the White Patent. Applicants' further submit that the deficiencies heretofore discussed with respect to Applicants' Specification and the White Patent are not rectified by the Matsuura Patent.

The Matsuura Patent in general concerns an interlayer insulating film mutually insulating a first layer and a second layer of conductor patterns. More specifically, the Matsuura Patent has been cited with respect to a passivation film 37 shown in Fig. 6A and 6B (see, col. 7, lines 59-62 of the Matsuura Patent). But nowhere in the Matsuura Patent is there any teaching or suggestion of a second interlayer insulating film "consisting of an interlayer insulating film" having a tensile strength as set forth in Applicants' claim 1, to which claim 4 depends. Lacking the Second Interlayer Insulating Layer Feature of Applicants' claimed invention, the Matsuura Patent does not rectify the deficiencies theretofore discussed with respect to Applicants' Specification and the White Patent. Applicants therefore request that the Section 103(a) rejection directed to claim 4 be withdrawn.

Newly Added Claims

By this Amendment, Applicants have added new claims 35-38 which are directly dependent on claim 1. Applicants' submit that new claims 35-38 are not the addition of new matter but are based on the application as originally filed. At least in view of their dependency on claim 1, claims 35-38 are in condition for allowance.

In view of the foregoing remarks and amendments, Applicants respectfully submit that claims 1, 4, 6-10, 29-31, and 33-38 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,

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